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VOL. 18 No. 5 February 2, 1968

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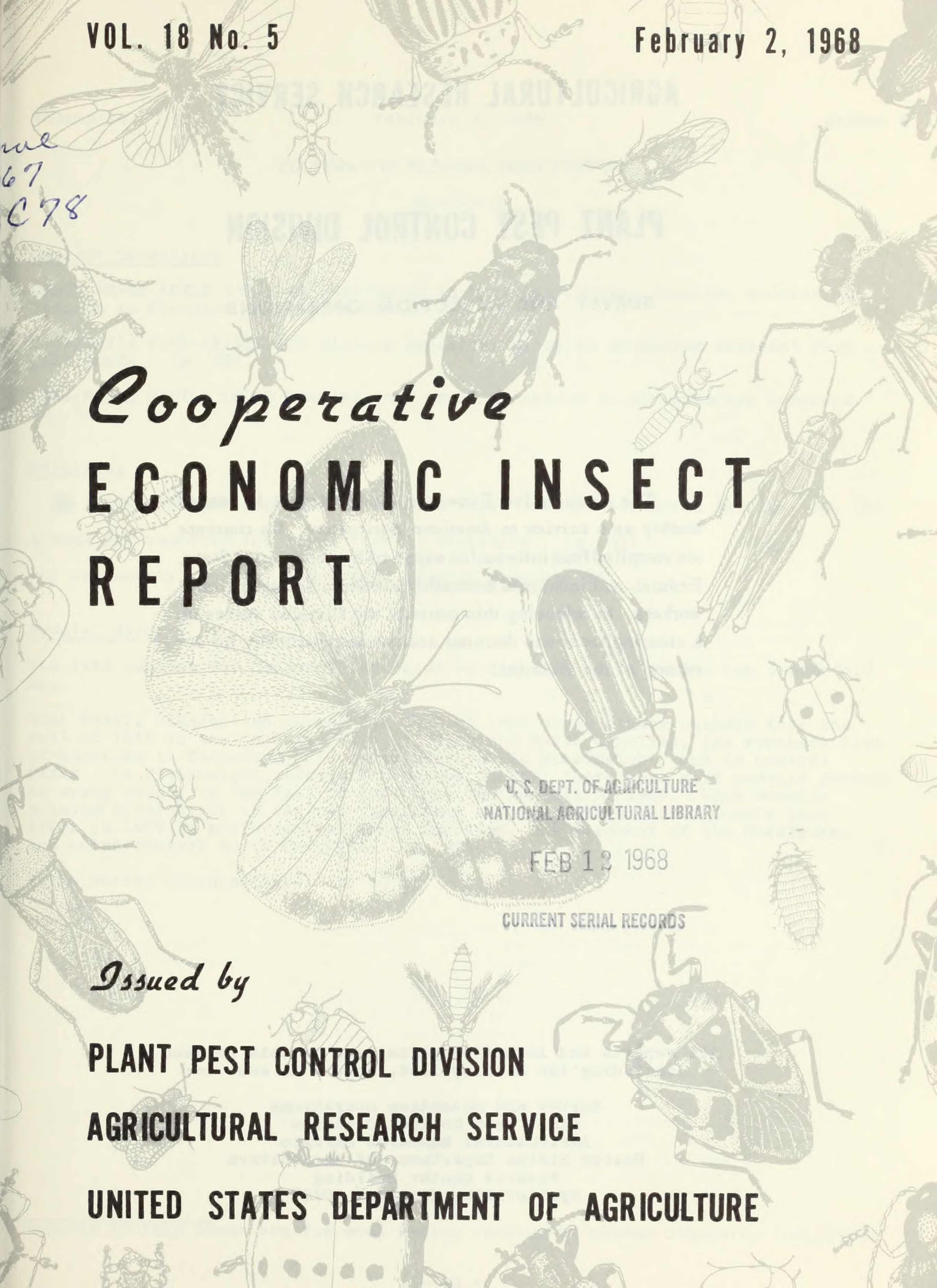

Cooperative
ECONOMIC INSECT REPORT

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PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

All reports and inquiries pertaining to this release, including the mailing list, should be sent to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

Volume 18 February 2, 1968 Number 5

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

GREEN PEACH APHID heavy on sugarbeets in Maricopa County, Arizona; moderate on spinach in Wicomico County, Maryland. (p. 52).

CALIFORNIA FIVE-SPINED IPS killing ponderosa pines in Mendocino National Park, California. (p. 53).

LONG-NOSED CATTLE LOUSE heavier than usual on cattle in northwestern Arkansas. (p. 54).

Detection

● A CYNIPID WASP reported in Florida; first record for North America. (p. 54).

A DEER FLY reported for first time in Minnesota. (p. 53).

For new county, parish, and island records see page 55.

Special Reports

The 1968 outlook for GRASSHOPPERS based on the 1967 adult survey see centerfold map.

BOLL WEEVIL hibernation survey for fall of 1967 shows higher numbers than the fall of 1966 in the Coastal Plain of North and South Carolina, the southern tier of counties in Tennessee, all areas surveyed in Mississippi, and in central Texas. In Mississippi, except for Monroe County, there were more weevils present in every county in the fall of 1967 than in the fall of 1966. More weevils entered hibernation in central Texas than any year since 1959. Counts were lower in 1967 in south-central South Carolina, the Piedmont of the Carolinas, and north-central North Carolina. (p. 57).

State Survey Coordinators. (p. 60).

Reports in this issue are for week ending January 26 unless otherwise indicated.

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Grasshopper Adult Survey - Fall 1967-(map)-centerfold

WEATHER OF THE WEEK ENDING JANUARY 29

HIGHLIGHTS: Temperatures averaged above normal from the Pacific coast to the Ohio and Mississippi Rivers and below normal southward and eastward from the Ohio River. Heavy snow fell in parts of the Sierras and Rockies; elsewhere precipitation was mostly light to moderate.

PRECIPITATION: Light precipitation fell over the eastern half of the Nation early in the week. Snow flurries occurred near the Great Lakes with light rain or drizzle elsewhere at midweek. Moderate to heavy snow fell in the southern Appalachians and freezing rain slicked the roads and highways in northern Georgia and the western Carolinas. The weekend brought rainy, windy weather to the Oregon and California coast with heavy snow in the mountains of southern Oregon and northern California. Heavy snow fell in the Rockies -- 14 inches at West Yellowstone, Montana, and Sunday morning Flagstaff, Arizona, measured 23 inches on the ground. Snow of varying intensity, mostly light to moderate, fell across the northern States from the Rocky Mountains to New England. Snow, sleet, freezing rain, and fog hampered highway travel over many areas from the Sierras to the Northeast.

TEMPERATURE: Warm weather continued over the West until a weekend cold wave brought an unseasonable chill to that area. Temperatures in the West averaged near or slightly above normal except along the northern Pacific coast and in some snow-covered parts of Arizona. It was the second warm week from the Rocky Mountains to the upper Great Lakes and southward to Texas. This area was especially warm early in the week before an arctic blast ended the 4-day mild spell which oldtimers refer to as the "January thaw." By Wednesday morning the leading edge of the cold air had reached the Gulf of Mexico and subfreezing temperatures occurred from New Orleans, Louisiana, to the Florida Panhandle. Rapid weekend warming brought weekly average temperatures above normal. Much of the northern and central Great Plains averaged 10° to 17° warmer than normal. Mild temperatures also prevailed early and late in the week east of a line from western Lake Erie to the Mississippi River Delta but this area was also cold at midweek. It was the 5th consecutive week with below normal in the East, although it was the warmest of the past 5 weeks in some areas. (Summary supplied by Environmental Data Service, ESSA.)

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

GREENBUG (Schizaphis graminum) - NEW MEXICO - Counts per linear foot in barley ranged 5-15 near Artesia and 4-10 near Carlsbad, Eddy County; 8-21 near Roswell, Chaves County. (Mathews). OKLAHOMA - Light in Garfield and Payne County wheat; less than 5 per linear foot in wheat in Washington, Nowata, Craig, Ottawa, Rogers, and Mayes Counties with some damsel bugs present. Ranged 5-15 per linear foot in wheat and less than 5 per linear foot in barley in Wagoner County. (Okla. Coop. Sur.). TEXAS - Activity unchanged throughout most of State due to unfavorable weather; activity decreased slightly in north-central area. (Turney, Almand). ARKANSAS - Absent to very light in wheat in northwest area; increase expected if weather continues moderate. (Boyer). KANSAS - Ranged 5-15 per row foot in wheat in Rooks and Phillips Counties and averaged less than 5 per row foot in Smith and Osborne Counties; 40-50 per row foot in one Phillips County field. (Simpson).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Ranged 10-20 per linear foot in barley near Artesia, Eddy County, and 0-30 near Roswell, Chaves County (Mathews); very light, 0-2 per field, in southern Dona Ana County barley. (N.M. Coop. Rpt.).

CORN EARWORM (Heliothis zea) - NEW MEXICO - Larva found in alfalfa field near Fairacres, Dona Ana County. (N.M. Coop. Rpt.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ARIZONA - Ranged 0-110 per 100 sweeps in alfalfa at Yuma, Yuma County. (Ariz. Coop. Sur.).

CORN, SORGHUM, SUGARCANE

SORGHUM MIDGE (Contarinia sorghicola) - FLORIDA - Total of 36 specimens taken on sorghum at Kendall, Dade County, November 6, 1967, by P. Douthit. Det. by R. J. Gagné. (Wolfenbarger). These are first specimens from State in U.S. National Museum collection. (Fla. Coop. Sur.).

SMALL GRAINS

ENGLISH GRAIN APHID (Macrosiphum avenae) - MISSISSIPPI - Adults and nymphs moderate, 30-40 per square foot, on Oktibbeha County wheat. (Dinkins).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Activity decreasing in north-central area due to heavy rains; damaging small grains in some Rolling Plains counties. (Turney, Almand). OKLAHOMA - Light in small grains in Garfield County. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

A SNAIL (Rumina decollata) - ARIZONA - Feeding on dichondra lawn at residence in northwest Phoenix, Maricopa County. Det. by A. R. Mead. (Ariz. Coop. Sur.).

FORAGE LEGUMES

PEA APHID (Acyrthosiphon pisum) - NEW MEXICO - Very light to light in alfalfa in Roswell, Chaves County, and Carlsbad and Artesia areas of Eddy County (Mathews); very light, 0-3 per field, in alfalfa in Mesilla Valley, Dona Ana County (Elson). OKLAHOMA - Light on alfalfa in Payne, Wagoner, and Washington Counties. (Okla. Coop. Sur.). ARKANSAS - Absent to very light in alfalfa and vetch in northwest area; increase expected if weather continues moderate. (Boyer). MISSISSIPPI - Adults and nymphs averaged 30 per square foot on alfalfa and vetch in Oktibbeha County. (Dinkins).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Ranged 30-130 per 100 sweeps in alfalfa in Yuma area, Yuma County; heaviest in older alfalfa. (Ariz. Coop. Sur.). NEW MEXICO - Very light, 0-1 per field, in Dona Ana County alfalfa. (Elson).

LYGUS BUGS (Lygus spp.) - ARIZONA - Ranged 30-50 per 100 sweeps in alfalfa in Parker Valley, Yuma County. (Ariz. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - MISSISSIPPI - Adults averaged one per 10 square feet, and eggs and larvae averaged 5 and 8 per 200 stems, respectively, in Oktibbeha County alfalfa field. (Pitre).

SUGARBEETS

GREEN PEACH APHID (Myzus persicae) - ARIZONA - Heavy in 20-acre field in northwest Phoenix area, Maricopa County; light to heavy in most other fields in county. (Ariz. Coop. Sur.).

GENERAL VEGETABLES

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Moderate on spinach planting at Salisbury, Wicomico County. (U. Md., Ent. Dept.). ARIZONA - Light in many lettuce fields in northwest Phoenix area, Maricopa County; increasing slightly at Yuma, Yuma County. (Ariz. Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

A CERAMBYCID BEETLE (Prionus sp.) - PENNSYLVANIA - Damage serious to 2 and 3-year-old apple trees in 2 commercial orchards in Blair and Franklin Counties; 50 young trees killed due to underground larval feeding. (Gesell, Jan. 3).

CITRUS

Quarterly Citrus Insect and Mite Outlook in Florida - January through March - This outlook is based on the assumption that weather beyond the period of the current U. S. Weather Bureau's 30-day Outlook will be normal. Therefore, the forecasts given below cannot be viewed with the same degree of confidence as those in the "Insect and Disease Summary" usually released twice each month by this station.

CITRUS RUST MITE (Phyllocoptruta oleivora) will decrease from high January level until mid-March and will be above normal throughout period with about 25 percent of groves having heavy infestations. TEXAS CITRUS MITE (Eutetranychus banksi) will decrease in February then gradually increase at mid-March and will be above normal but at moderate level. About 10 percent of groves will have heavy infestations. CITRUS RED MITE (Panonychus citri) will change little from low population normal for period. Slight increase expected at mid-March and about 5 percent of groves will have heavy infestations. SIX-SPOTTED MITE (Eotetranychus sexmaculatus) will increase in few groves but is not expected to be damaging through March. GLOVER SCALE (Lepidosaphes gloverii) will increase gradually and is expected to approach the high range by March. PURPLE SCALE (L. beckii) will remain at moderate level. YELLOW SCALE (Aonidiella citrina) will increase slightly and will be in moderate abundance. BLACK SCALE (Saissetia oleae) expected to increase in February and subside in March and will be above normal abundance but will not become damaging through March. Infestations of an ARMORED SCALE (Unaspis citri) will continue to spread and intensify. APHIDS will start to appear in late February and increase rapidly in March. WHITEFLIES will be below normal and low with slight increase in March. (W. A. Simanton).

AN ARMORED SCALE (*Unaspis citri*) - FLORIDA - Damage by all stages light to moderate on 90 of 900 Temple orange nursery trees at Clermont, Lake County. (Henderson).

SOUTHERN FIRE ANT (*Solenopsis xyloni*) - CALIFORNIA - Moderate in citrus grove in Calexico, Imperial County. (Cal. Coop. Rpt.).

ORNAMENTALS

A SOFT SCALE (*Ehrhornia cupressi*) - CALIFORNIA - Moderate on juniper nursery stock in Sunland, Los Angeles County. (Cal. Coop. Rpt.).

A PIT SCALE (*Cerococcus deklei*) - FLORIDA - Adults severe on stems of 342 of 427 hibiscus plants at nursery in Miami, Dade County, January 17. (Cervone).

CUBAN-LAUREL THRIPS (*Gynaikothrips ficorum*) - CALIFORNIA - Moderate on *Ficus retusa* in San Francisco, San Francisco County, for a new county record. This is most northern find in State. (Cal. Coop. Rpt.).

AN ERIOPHYID MITE (*Calacarus adornatus*) - ALABAMA - Light on numerous camellia plants in central area; up to 100+ per leaf damaging few plants. (McQueen).

FOREST AND SHADE TREES

CALIFORNIA FIVE-SPINED IPS (*Ips confusus*) - CALIFORNIA - Killing several groups of small trees and young sawtimber ponderosa pines in 640-acre stand in Middle Creek area of Mendocino National Forest, Shasta County. (Bradley, USFS).

A SPIDER MITE (*Oligonychus subnudus*) - CALIFORNIA - This species and *Brevipalpus pini*, a false spider mite, heavy on pine in Redwood City, San Mateo County. (Cal. Coop. Rpt.).

MAN AND ANIMALS

MOSQUITOES - CALIFORNIA - Overwintering females becoming active due to warm weather in Sacramento, Sacramento County; 95 percent *Anopheles* spp. and 5 percent *Culex* spp in area. (Cal. Coop. Rpt.).

A DEER FLY (*Chrysops shermani*) - MINNESOTA - Collected along Temperance River in Cook County, August 27, 1967, by E. U. Balsbaugh. Det. by L. L. Pechuman. This is a new State record. (Jones).

COMMON CATTLE GRUB (*Hypoderma lineatum*) - OKLAHOMA - Ranged 12-15 per head on untreated cows in packing plant in northeast area; less than one per head on treated cattle in panhandle area and moderate on Mayes County cattle. (Okla. Coop. Sur.). ARKANSAS - Ranged 0-4 (average 0.32) per head on 37 treated cattle and 3-55 (average 19) per head on 18 untreated cattle in 2 experimental Benton County herds; much heavier on untreated cattle than in past few years. (Simco).

SCREW-WORM (*Cochliomyia hominivorax*) - No cases reported in U.S. January 21-27, 1968. Total of 69 cases reported in portion of Barrier Zone in Republic of Mexico as follows: Territorio sur de Baja California 17, Sonora 9, Chihuahua 14, Coahuila 7, Tamaulipas 22. Total of 14 cases reported in Mexico south of Barrier Zone. Barrier Zone is area where eradication operations underway to prevent establishment of self-sustaining population in U.S. Sterile screw-worm flies released: Texas 168,000, Mexico 83,046,000. (Anim. Health Div.).

CATTLE LICE - IOWA - *Bovicola bovis* light on cattle in Dallas, Marion, Iowa, and Washington Counties. *Solenopotes capillatus* adults light on 2 head of cattle in Washington County. *Haematopinus eurysternus* light on cattle in these same counties, although moderate to heavy on 2 head in Marion County.

Linognathus vituli adults found on cattle in Dallas, Marion, Iowa, and Washington Counties. (Iowa Ins. Sur.). ARKANSAS - *L. vituli* heavier than usual in northwest area; ranged 3-6 per square inch on cattle in Boone County January 15-21. (Simco).

BROWN RECLUSE SPIDER (*Loxosceles reclusa*) - ALABAMA - Specimen taken in home in Franklin County. (Arant, Ponder).

STORED PRODUCTS

INDIAN-MEAL MOTH (*Plodia interpunctella*) - MARYLAND - Infesting birdseed in building at Landover Hills, Prince Georges County. (U. Md., Ent. Dept.). IOWA - Present in homes in Osceola and Polk Counties. (Stockdale, Mast).

MEDITERRANEAN FLOUR MOTH (*Anagasta kuehniella*) - PENNSYLVANIA - Heavy on stored wheat in Bedford County; webbing evident. (Gesell).

DERMESTID BEETLES (*Trogoderma* spp.) - CALIFORNIA - *T. simplex* and *T. parabile* larvae moderate in rat bait at warehouse in Winters, Yolo County. (Cal. Coop. Rpt.).

GRANARY WEEVIL (*Sitophilus granarius*) - MARYLAND - Heavy in stored barley on farm near Ellicott City, Howard County. (U. Md., Ent. Dept.).

BENEFICIAL INSECTS

A CYNIPID WASP (*Pseudeucoila hookeri* (Crawford)) - FLORIDA - Few specimens reared in bottle at Homestead, May 10, 1967, by R. M. Baranowski, presumably from field-collected *Anastrepha suspensa* pupae. Det. by B. D. Burks. *P. hookeri* originally described from Puerto Rico. This is a new record for North America. (Mead). There is a possibility *P. hookeri* may be a parasite of a species of Drosophilidae, as experience shows there is occasional contamination in rearing work. This possibility should be considered with the rearing of *P. hookeri*. *Drosophila* spp. in decaying fruit are given as hosts of *P. bochei* which is known to occur in the United States. (Muma).

A LADY BEETLE (*Mulsantina picta*) - ALABAMA - Adults feeding on pine aphids in Lee County. Det. by E. A. Chapin. (McQueen).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - NORTH DAKOTA - Total of 217,000 acres of cropland and 7,500 acres of rangeland with threatening or heavier infestations in southeastern, south-central, and southwestern areas during 1967 fall adult survey; light on 36,000 acres of rangeland in Ransom and Richland Counties. Total of 75,000 acres of cropland treated in State in 1967. (PPC Cent. Reg., Dec. Rpt.).

CARIBBEAN FRUIT FLY (*Anastrepha suspensa*) - FLORIDA - Larvae heavy in fruit of Natal-plum, *Carissa grandiflora*, at Plantation, Broward County (O'Brien); adults trapped at numerous locations from Key West to Daytona Beach. Adults taken in McPhail and on stickyboard traps in Merritt Island, Cape Kennedy, and Daytona areas of Brevard and Volusia Counties January 17-24. (Fla. Coop. Sur.).

GYPSY MOTH (*Porthetria dispar*) - NEW JERSEY - Extensions found in Warren, Atlantic, Burlington, and Gloucester Counties. PENNSYLVANIA - Egg clusters found at 5 positive and one negative trapping site in Pike County. (PPC East. Reg., Dec. Rpt.).

IMPORTED FIRE ANT (*Solenopsis saevissima richteri*) - ALABAMA - Major problem in Bullock, Tallapoosa, and Coosa counties; very annoying in 14 other southeastern counties. (Bullington, Strickland). New infestations found in 9 of 19 counties inspected with important extensions in Marion, Cullman, Morgan, and Cleburne Counties; controls applied to 1,178 acres in 12 counties during December. FLORIDA - Found for first time in Taylor County. LOUISIANA - Total of 3,895 acres treated in 13 parishes during December. TEXAS - Taken in Houston and Kendall Counties for new county records; extensions near El Campo in Wharton County. (PPC South. Reg.).

MEXICAN FRUIT FLY (Anastrepha ludens) - CALIFORNIA - Total of 1,231 sterile flies recovered in State during December; no unmarked adults or larvae recovered north of Mexican border in 1967. (PPC West. Reg.).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Found on lint cleaner glasses at gins in Dona Ana County (Hare); live larvae in bolls on ground (Elson). NEVADA - Larval recovery from gin trash inspections indicated light to moderate infestation in Pahrump Valley for 1967. CALIFORNIA - Total of 3 larvae taken in Cantil area and none taken in Bakersfield area during gin trash inspections in Kern County; no larvae found during green boll survey in San Benito County. Larval finds at Cantil first of season. ARIZONA - Light to very heavy in lint cleaners throughout State. (PPC West. Reg., Dec. Rpt.). OKLAHOMA - Larvae found in all 33 counties inspected; 1,167 taken in single cotton bale in Jefferson County highest count reported. TEXAS - Larvae taken from cotton gin at Spearman, Hansford County, for a new county record. Heavy in green and dry bolls in El Paso Valley. (PPC South. Reg., Dec. Rpt.).

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - LOUISIANA - Two infestations found in Caldwell Parish for a new parish record. (PPC South. Reg., Dec. Rpt.).

INSECT DETECTION

New North American Record

A CYNIPID WASP (Pseudeucoila hookeri (Crawford)) - FLORIDA - Few specimens reared presumably from Anastrepha suspensa pupae at Homestead, Dade County, May 10, 1967, by R. M. Baranowski. Det. by B. D. Burks. (p. 54).

New State Record

A DEER FLY (Chrysops shermani) - MINNESOTA - Collected along Temperance River in Cook County, August 27, 1967, by E. N. Balsbaugh. Det. by L. L. Pechuman. (p. 53).

New County, Parish, and Island Records

CUBAN-LAUREL THRIPS (Gynaikothrips ficorum) - CALIFORNIA - San Francisco County. (p. 53).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - FLORIDA - Taylor County. TEXAS - Houston and Kendall Counties. (p. 55).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Hansford County. (p. 55).

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - LOUISIANA - Caldwell Parish. (p. 55).

MAUNALOA BEAN BEETLE (Araeocorynus cumingi) - HAWAII - Kauai Island. (p. 56).

A CONIFER APHID (Cinara carolina) - HAWAII - Hawaii Island. (p. 56).

A HISTERID BEETLE (Hister nomas) - HAWAII - Maui Island. (p. 56).

A HISTERID BEETLE (Pachylister caffer) - HAWAII - Maui Island. (p. 56).

HAWAII INSECT REPORT

Vegetables - GIANT AFRICAN SNAIL (*Achatina fulica*) and BLACK SLUG (*Veronicella leydigi*) young and adults heavy in localized area of Waianae, Oahu; damage light to moderate to foliage and fruits of eggplant and bell pepper. (Olson, Funasaki). An ARMORED SCALE (*Pinnaspis strachani*) heavy on stems of eggplant in Kualoa, Oahu; many stems completely covered. (Sato, Funasaki).

Ornamentals - Nymphs and adults of a PLATASPID BUG (*Coptosoma xanthogramma*) severe on mucuna throughout bayfront area in Hilo, Hawaii Island; mating noted. Adults heavy on hibiscus, moderate on African tuliptree, barringtonia, poinciana, and Surinam cherry, and light on various other plants in same area. (Yoshioka). A BARK BEETLE (*Xylosandrus compactus*) light on dendrobium and vanda orchids in Lihue, Kauai; new host records for island. Moderate on kolomona, *Cassia glauca*, in Kukuila, Kauai. (Davis). Larvae of a NOCTIUD MOTH (*Achaea janata*) heavy, 15 per plant, on crotons, roses, and several weed plants in Makakilo, Oahu; moving from weed area into house lots. Numerous on plants or dead on ground, probably due to disease. (Au). MAUNALOA BEAN BEETLE (*Araeocorynus cumingi*) heavy in maunaloa seeds in Nawiliwili, Kauai, for new island record. Previously found only on Oahu Island. (Davis).

Forest and Shade Trees - A CONIFER APHID (*Cinara carolina*) heavy and damaging pines in Waimea, Hawaii Island, for a new island record. Previously recorded from Maui, Kauai, Molokai and Lanai Islands. (Yoshioka).

Beneficial Organisms - Adults of 2 HISTERID BEETLES (*Hister nomas* and *Pachylister caffer*) found for first time at Makena, Maui, November 1967. These are new island records. *P. caffer* previously found only on Hawaii Island and *H. nomas* on Oahu and Hawaii Islands. Larvae and adults are predacious on horn fly larvae. (Chong). ROSY PREDATOR SNAIL (*Euglandina rosea*) adults heavy in scattered areas at Peahi and Hamakuapoko, Maui; light but active from Waihee to Keanae. (Miyahira).

Miscellaneous - Several adults of a GRASSHOPPER (*Trimerotropis pallidipennis*) taken in sugarcane field near original infestation area at Ewa, Oahu. Adults of VAGRANT GRASSHOPPER (*Schistocerca vaga*) common in farming areas of Waianae, Oahu; crop damage negligible. (Olson et al.).

LIGHT TRAP COLLECTIONS

FLORIDA - Sanford - 1/17-19, BL - Cabbage looper (*Trichoplusia ni*) 1, granulate cutworm (*Feltia subterranea*) 11. TEXAS - Brownsville - 1/20-26, 2 BL, 44-78°F., precip. 0.80 in. - Armyworm (*Pseudaletia unipuncta*) 135, black cutworm (*Agrotis ipsilon*) 289, cabbage looper 4, fall armyworm (*Spodoptera frugiperda*) 2, granulate cutworm 29, salt-marsh caterpillar (*Estigmene acrea*) 82, variegated cutworm (*Peridroma saucia*) 46, yellow-striped armyworm (*Prodenia ornithogalli*) 101.

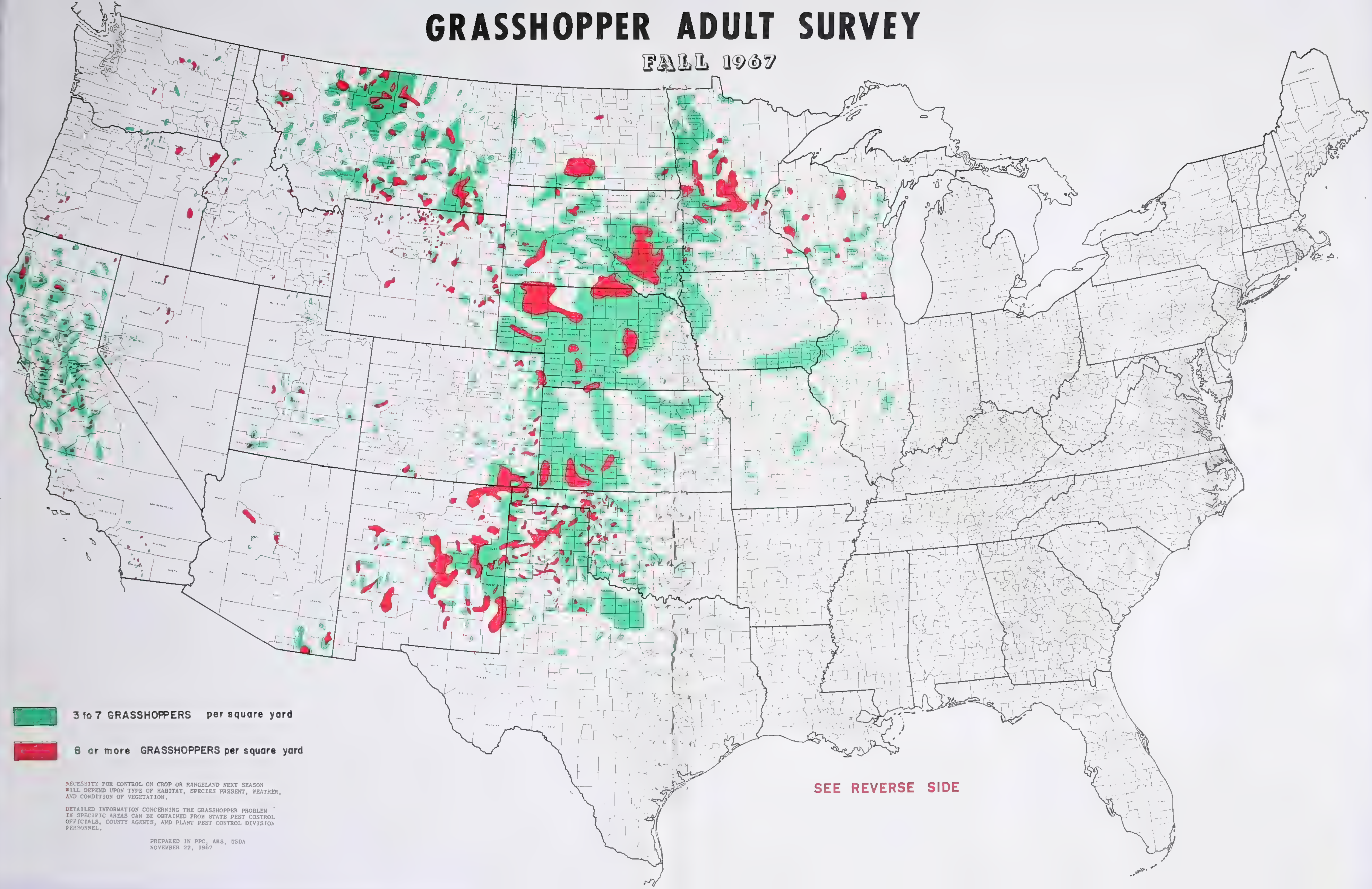
CORRECTIONS

CEIR 17(8):117 - COCONUT SCALE (Aspidiotus destructor) - PENNSYLVANIA - should read *AN ARMORED SCALE* (Aspidiotus *cryptomeriae*). (Gesell).

CEIR 17(51):1076 - QUINTANILLA, R.H. 1965.....should read QUINTANILLA, R.H. *1964*...

GRASSHOPPER ADULT SURVEY

FALL 1967



🟩 3 to 7 GRASSHOPPERS per square yard

🟥 8 or more GRASSHOPPERS per square yard

NECESSITY FOR CONTROL ON CROP OR RANGELAND NEXT SEASON WILL DEPEND UPON TYPE OF HABITAT, SPECIES PRESENT, WEATHER, AND CONDITION OF VEGETATION.

DETAILED INFORMATION CONCERNING THE GRASSHOPPER PROBLEM IN SPECIFIC AREAS CAN BE OBTAINED FROM STATE PEST CONTROL OFFICIALS, COUNTY AGENTS, AND PLANT PEST CONTROL DIVISION PERSONNEL.

PREPARED IN PPC, ARS, USDA
NOVEMBER 22, 1967

SEE REVERSE SIDE

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

TO COOPERATORS:

This map is based upon the results of cooperative grasshopper adult surveys made during the late summer and fall of 1967. The survey reveals where and how many grasshoppers infest an area, and indicates the potential severity of investations for 1968. Nymphal surveys, made in the spring, determine population densities, and indicate those areas where control may be necessary in 1968.

Control on grasshopper infested croplands will be handled by the farmers with technical assistance from Division and State personnel. The infested rangeland areas total 14,292,122 acres in 16 Western and Midwestern States. Areas on the map are diagrammatic. Within these areas, infestations may be solid or spotted.

RANGELAND GRASSHOPPER INFESTATIONS – ACREAGE BY REGIONS, FALL 1967

(AREAS SHOWN IN RED)

REGION AND STATE	LANDOWNERSHIP – ACRES		TOTAL ACRES
	Private and State	Public Domain	
CENTRAL			
Kansas	425,000	200,000	625,000
Nebraska	1,500,000	35,000	1,535,000
North Dakota	2,400	5,100	7,500
WESTERN			
Arizona	55,000	24,000	79,000
California	187,180	3,350	190,530
Colorado	654,392	91,660	746,052
Idaho	22,000	112,300	134,300
Montana	1,558,000	411,200	1,969,200
Nevada	18,620	30,460	49,080
New Mexico	3,511,000	590,500	4,101,500
Oregon	69,000	16,700	85,700
Utah	26,000	25,000	51,000
Washington	5,000	20,000	25,000
Wyoming	1,265,300	199,500	1,464,800
SOUTHERN			
Oklahoma	1,004,500	35,000	1,039,500
Texas	2,188,960	–––	2,188,960

The survey was planned and performed by the Plant Pest Control Division, Agricultural Research Service, in cooperation with various State agencies concerned.

GPO 975-275

Boll Weevil Hibernation Survey - Fall 1967

The fall collections of surface ground (woods) trash samples (two square yards per sample) have been completed in 6 Southern States by State and Federal agencies to determine the number of boll weevil (Anthonomus grandis) adults that went into hibernation. A total of 3 samples was collected at each location in the Carolinas, Mississippi, Louisiana, and Texas; 12 samples were taken in Tennessee. In North and South Carolina, 30 locations were sampled in each area, with numbers of counties per area from which samples were taken varying from 3 to 6. In Mississippi, a total of 45 samples was taken from 15 locations in each of 4 areas; each area was composed of 2 counties. A total of 45 locations was sampled in northeastern Louisiana; 20 locations in Madison Parish, 10 locations each in Tensas and East Carroll Parishes, and 5 locations in West Carroll Parish. This is the first year trash samples have been collected in West Carroll Parish. Good hibernation sites are becoming difficult to find in East Carroll Parish and 15 samples were collected in West Carroll Parish as a possible substitute in the near future. In Texas, 75 samples were taken from either 6 or 7 locations in each of 4 counties.

Average counts (live weevils per acre) were higher than those in 1966 in the Coastal Plain of North and South Carolina, the southern tier of counties in Tennessee, in all areas surveyed in Mississippi, and in central Texas. Counts were lower in the fall of 1967 in south-central South Carolina, the Piedmont of South and North Carolina, and north-central North Carolina. The number of weevils per acre entering hibernation in south-central South Carolina decreased from 11,964 in 1966 to 1,802 in 1967.

In Florence County, South Carolina, where fall examinations have been made since 1942 (except the fall of 1946), the number of weevils per acre (5,434) is the lowest since 1959.

In Tennessee, the survey was conducted in McNairy, Hardin, Fayette, and Hardeman Counties as infestations were heaviest in these counties during the growing season. The number of weevils per acre averaged 7,580 in those counties. This compares with 7,120 in 1966, 1,211 in 1965, 807 in 1964, 1,089 in 1963, 3,633 in 1962, and 3,025 in 1961. The figures for 1965 through 1961 are for McNairy County only.

The 1967 State average for Mississippi was 6,304 live weevils per acre of ground trash. This compares with 2,956 in 1966, 7,325 in 1965, 4,545 in 1964, 3,010 in 1963, 6,213 in 1962, and 8,403 in 1961. Except for Monroe County, there were more weevils present in every county in the fall of 1967 than in the fall of 1966.

In the four-parish area of northeast Louisiana, the average number of boll weevils per acre was 6,473. The average per parish was 8,147 in Madison, 4,679 in Tensas, 887 in East Carroll, and 14,681 in West Carroll. During the past 32 years that these records have been made in Madison Parish, the number of weevils per acre has been higher than the 1967 collection only in 1955. The average that year was 13,443 weevils per acre. In the past 12 years that these records have been made in East Carroll and Tensas Parishes, the 1967 average was lower than any previous year in East Carroll and had been exceeded only 5 times in Tensas. Light frost occurred in late September and the third week of October. There were several nights of subfreezing temperatures the first week of November with a low of 24° recorded November 8. Heavy loss of late-maturing cotton resulted. Dead weevils were observed in squares of second-growth cotton. Trash collected was very dry and dusty as the result of only 2.42 inches of rain for the 3-month period ending November 22.

In central Texas, boll weevils averaged 4,942 per acre in the fall of 1967 compared with 4,877 in 1966, 4,425 in 1965, 4,406 in 1964, 517 in 1963, 1,781 in 1962, 4,114 in 1961, 4,501 in 1960, and 6,631 in 1959. In the fall of 1967, more boll weevils entered hibernation than any year since 1959. Spring planting was delayed until mid-May, first by lack of moisture and then by rains during April and early May. This resulted in most cotton acreage being planted 3 to 4 weeks later than normal. Harvest and stalk destruction were delayed by rains in late August and early September. Regrowth and fruiting followed the heavy fall rains. Heavy boll weevil populations built up and entered hibernation. A heavy frost occurred November 4, which is about one week early for the area. Most cotton that had not previously been destroyed was killed by this frost. (H. M. Taft, A. R. Hopkins, J. H. Locke, T. R. Pfrimmer, T. C. Cleveland, C. B. Cowan).

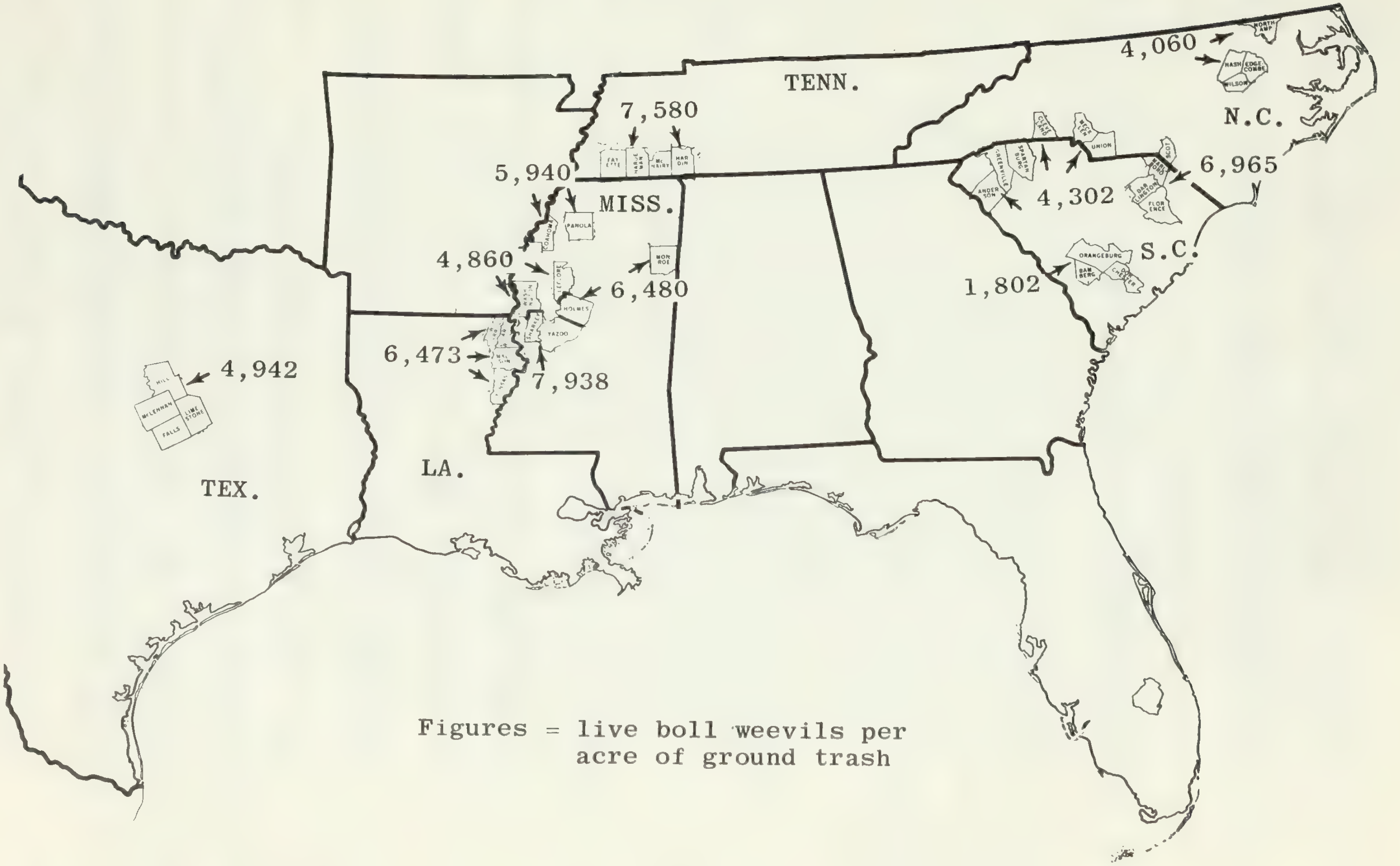
BOLL WEEVIL HIBERNATION SURVEYS - FALL 1967

Area (County and State)	Number of Weevils Per Acre	
	1966	1967
NORTH AND SOUTH CAROLINA		
South Central South Carolina (Orangeburg, Bamberg, and Dorchester Counties)	11,964	1,802
Coastal Plain of South and North Carolina (Florence, Darlington, and Marlboro Counties, S.C.; Scotland County, N.C.)	5,055	6,965
Piedmont of South and North Carolina (Anderson, Greenville, and Spartanburg Counties, S.C.; Mecklenburg, Cleveland, and Union Counties, N.C.)	7,986	4,302
North Central North Carolina (Northampton, Nash, Wilson, and Edgecombe Counties)	5,001	4,060
TENNESSEE		
Southern Tier of Counties (McNairy, Hardin, Fayette, and Hardeman)	7,120	7,580
MISSISSIPPI		
South Delta (Sharkey and Yazoo Counties)	2,322	7,938
Central Delta (Washington and Leflore Counties)	2,322	4,860
North Delta (Coahoma and Panola Counties)	3,240	5,940
Hill Section (Holmes and Monroe Counties)	3,942	6,480
LOUISIANA		
Northeastern (Madison, East Carroll, Tensas, and West Carroll Parishes)	----*	6,473
TEXAS		
Central (Falls, Hill, Limestone, and McLennan Counties)	4,877	4,942

*West Carroll Parish included in 1967 survey; only Madison, East Carroll, and Tensas Parishes surveyed in fall of 1966. Counts averaged 3,166 hibernating weevils for these 3 parishes in 1966.

See map on following page.

BOLL WEEVIL HIBERNATION SURVEYS - FALL 1967



Figures = live boll weevils per acre of ground trash

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STATE SURVEY COORDINATORS

Alabama	Dr. F. S. Arant, Head, Department of Zoology-Entomology, Auburn University, Auburn 36830
Alaska	Dr. Richard H. Washburn, Entomology Department, Agricultural Experiment Station, Palmer 99645
Arizona	Dr. J. N. Roney, Extension Entomologist, University of Arizona, P. O. Box 751, Phoenix 85001
Arkansas	Dr. James E. Roberts, Extension Entomologist, 201 Agricultural Engineering Bldg., University of Arkansas, Fayetteville 72701
California	Mr. R. W. Harper, Chief, Bureau of Entomology, California Department of Agriculture, Sacramento 95814
Colorado	Dr. W. D. Fronk, Head, Department of Entomology, Colorado State University, Fort Collins 80521
Connecticut	Mr. J. Peter Johnson, Entomologist, Connecticut Agricultural Experiment Station, P. O. Box 1106, New Haven 06504
Delaware	Dr. Dale F. Bray, Head, Department of Entomology and Applied Ecology, University of Delaware, Newark 19711
Florida	Mr. H. L. Jones, Director, Division of Plant Industry, Florida Department of Agriculture, P. O. Box 1269, Gainesville 32601
Georgia	Mr. Carl M. Scott, Jr., Director, Division of Entomology, Georgia Department of Agriculture, 19 Hunter Street, Atlanta 30334
Hawaii	Mr. C. J. Davis, Chief, Entomology Branch, Hawaii State Department of Agriculture, P. O. Box 5425, Honolulu 96814
Idaho	Dr. H. C. Manis, Head, Department of Entomology, University of Idaho, Moscow 83843
Illinois	Dr. H. B. Petty, Jr., Extension Entomologist, Illinois Agricultural Extension Service, 280 Natural Resources Building, Urbana 61801
Indiana	Dr. John V. Osmun, Head, Department of Entomology, Purdue University, Lafayette 47907
Iowa	Dr. Oscar E. Tauber, Acting Survey Coordinator, Chairman, Department of Zoology and Entomology, 253 Science Building, Iowa State University, Ames 50010
Kansas	Dr. Herbert Knutson, Head, Department of Entomology, Waters Hall, Kansas State University, Manhattan 66502
Kentucky	Dr. Lee H. Townsend, State Entomologist and Chairman, Department of Entomology, University of Kentucky, Lexington 40506
Louisiana	Dr. L. D. Newsom, Head, Entomology Research, Louisiana State University, Baton Rouge 70803
Maine	Dr. G. W. Simpson, Head, Department of Entomology, University of Maine, Orono 04473
Maryland	Mr. T. L. Bissell, Extension Entomologist, Department of Entomology, University of Maryland, College Park 20742

Massachusetts	Vacancy
Michigan	Dr. Gordon E. Guyer, Head, Department of Entomology, Michigan State University, East Lansing 48823
Minnesota	Mr. Clare D. Floyd, Director, Division of Plant Industry, Minnesota Department of Agriculture, State Office Building, St. Paul 55101
Mississippi	Dr. J. R. Brazzel, Head, Department of Entomology, Mississippi State University, State College 39762
Missouri	Dr. W. S. Craig, Extension Entomologist, Department of Entomology, 1-87 Agriculture Building, University of Missouri, Columbia 65201
Montana	Dr. J. H. Pepper, Head, Department of Zoology and Entomology, Montana State University, Bozeman 59715
Nebraska	Dr. Earle S. Raun, Chairman, Department of Entomology, University of Nebraska, Lincoln 68503
Nevada	Mr. Lee M. Burge, Executive Director, Division of Plant Industry, Nevada Department of Agriculture, P. O. Box 1209, Reno 89504
New Hampshire	Dr. J. G. Conklin, State Entomologist, University of New Hampshire, Nesmith Hall, Durham 03824.
New Jersey	Dr. B. B. Pepper, Chairman, Department of Entomology, College of Agriculture, Rutgers University, New Brunswick 08903
New Mexico	Dr. G. W. Nielsen, Chief, Division of Plant Industry, State Department of Agriculture, New Mexico State University, University Park Box 189, Las Cruces 88001
New York	Dr. A. A. Muka, Extension Entomologist, Department of Entomology and Limnology, College of Agriculture, Cornell University, Ithaca 14840
North Carolina	Dr. Gerald T. Weekman, Extension Entomologist, North Carolina State University, P. O. Box 5212, State College Station, Raleigh 27607
North Dakota	Dr. R. L. Post, Acting Chairman, Department of Entomology, North Dakota State University, Fargo 58102
Ohio	Dr. Roy W. Rings, Ohio Agricultural Research and Development Center, Wooster 44691
Oklahoma	Dr. D. E. Howell, Head, Department of Entomology, Oklahoma State University, Stillwater 74074
Oregon	Mr. George H. Moose, Chief, Plant Division, Oregon State Department of Agriculture, Agriculture Building, Salem 97310
Pennsylvania	Mr. Stanley Gesell, Extension Entomologist, 200 Walker Laboratory, Pennsylvania State University, University Park 16802
Puerto Rico	Agricultural Experiment Station, University of Puerto Rico, Rio Piedras 00931

Rhode Island	Dr. F. L. Howard, Chairman, Department of Plant Pathology and Entomology, University of Rhode Island, Kingston 02881
South Carolina	Mr. W. C. Nettles, Leader, Extension Entomology and Plant Disease Work, Clemson University, Clemson 29631
South Dakota	Dr. R. J. Walstrom, Head, Department of Entomology and Zoology, South Dakota State University, Brookings 57006
Tennessee	Dr. S. E. Bennett, Department of Agricultural Biology, University of Tennessee, P. O. Box 1071, Knoxville 37901
Texas	Dr. P. L. Adkisson, Head, Department of Entomology, Texas A&M University, College Station 77843
Utah	Mr. Reed S. Roberts, Extension Entomologist, Utah State University, Logan 84321
Vermont	Mr. John W. Scott, Director, Division of Plant Pest Control, Vermont Department of Agriculture, Montpelier 05601
Virginia	Dr. J. M. Grayson, Head, Department of Entomology, Virginia Polytechnic Institute, Blacksburg 24061
Washington	Dr. Horace S. Telford, Chairman, Department of Entomology, Washington State University, Pullman 99164
West Virginia	Dr. C. K. Dorsey, Professor of Entomology, West Virginia University, Morgantown 26506
Wisconsin	Mr. Philip W. Smith, WSDA-Plant Industry Division, Hill Farms State Office Building, Room 202B, Madison 53702
Wyoming	Mr. C. C. Burkhardt, Professor, Plant Science Division, University of Wyoming, University Box 3354, Laramie 82070

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